Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

**Periodic Trends Practice Quiz**

1. Rank the following elements by increasing atomic radius: carbon, aluminum, oxygen, potassium.
2. Rank the following elements by increasing electronegativity: sulfur, oxygen, neon, aluminum.
3. Circle the element with the **largest atomic radius**.
   1. Al or B
   2. Na or Al
   3. S or O
4. Circle the element with the **greater ionization energy**.
   1. Li or Be
   2. Ca or Ba
   3. Na or K
5. Circle the element with the **greater electronegativity**.
   1. Ca or Ga
   2. Br or Ar
   3. Li or He
6. Put the following elements in order of **increasing atomic radius:** Li, F, C
7. Put the following elements in order of **decreasing electronegativity**: C, O, Ne
8. Elements Z and X are compared. Element Z is larger than Element X. Based on this you could say:
   1. Element Z is further to the left side of the periodic table
   2. Element X is closer to the top of the periodic table
   3. Element Z and X are probably in the same group
   4. A and/or B
   5. B and/or C
9. The atomic radius of main-group elements generally increases down a group because \_\_\_\_\_\_\_\_.
   1. effective nuclear charge increases down a group
   2. effective nuclear charge decreases down a group
   3. effective nuclear charge zigzags down a group
   4. the principal quantum number of the valence orbitals increases
   5. both effective nuclear charge increases down a group and the principal quantum number of the valence orbitals increases
10. In general, as you go across a period in the periodic table from left to right:

(1) the atomic radius \_\_\_\_\_\_\_\_\_\_;

(2) the electronegativity \_\_\_\_\_\_\_\_\_\_; and

(3) the first ionization energy \_\_\_\_\_\_\_\_\_\_.

* 1. decreases, decreases, increases
  2. increases, increases, decreases
  3. increases, increases, increases
  4. decreases, increases, increases
  5. decreases, increases, decreases

***Answer questions 11-13 in complete sentences.***

1. What is the difference between ionization energy and electronegativity?
2. Explain why bromine has a larger atomic radius than fluorine.
3. Explain why neon has a lower electronegativity than nitrogen.

**Extra Credit:** Does the graph below represent the trend for atomic radius, electronegativity, or ionization energy? You must explain why in order to receive credit.

